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ABSTRACT

This study provides guidelines for using electronic mail for data collection and sheds light on some of the substantive issues related to research via this medium. Researchers creating electronic interview situations for the study stressed that the atmosphere should be informal and conversational. Interviewees were encouraged to use typical expressions of emotion--"emotext" or "emoticons"--and to use other innovative ways of expressing their feelings or emphases. The topic addressed was how the respondents used technology. Results indicated that many of the difficulties inherent in face-to-face interviews were overcome in the electronic medium. The researchers were unable to interrupt the interviewees or to give nonverbal evaluative responses. Both the researchers and the interviewees were able to take the time to be thoughtful and careful in their responses to each other, increasing the depth of understanding for both parties. Neither the researchers nor the interviewees had to schedule appointments or be concerned with the effects of interruptions. Although some caution remains regarding the validity of responses collected in this way, general advantages of interviewing using electronic mail rather than traditional face-to-face interviews include: reduced time and cost; convenience; unimportance of geographic location and the possibility for more sampling diversity; the potential for large amount of data to be accumulated quickly; the allowance for more thorough and thoughtful follow-up and clarification; single-step, non-interfering recording and transcription; no danger or discomfort for the researcher; and the ability to continue the interview process until the researcher is satisfied that a saturation point has been reached. A list of guidelines are included for researchers who are considering conducting research via electronic mail using interviews. A copy of the letter that was sent to participants is included. (Contains 10 references.) (AEF)

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Conducting Research on the Internet: Strategies for Electronic Interviewing

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Abstract

How can researchers establish the trustworthiness of data collected using electronic mail? This study illuminated some of the substantive issues related to this methodology and provided researchers with twelve guidelines for using this medium. Results suggest that researchers can cautiously rely on electronic interviews and, that compared to the traditional approach, there are advantages, such as streamlined data collection, transcription, and data analysis.

Purpose

How can researchers establish the trustworthiness of data collected using electronic mail? This study attempted to illuminate some of the substantive issues related to this methodology and to provide researchers with protocols, suggestions, and guidelines for using this medium. The advantages and disadvantages, as identified in this study, are outlined.

Theoretical framework

Lincoln and Guba (1985) make a distinction between qualitative methods and qualitative inquiry. While interviewing is generally viewed as a qualitative method, use of interviewing does not necessarily lead to qualitative research. Indeed, the qualitative paradigm requires, according to Lincoln and Guba, that: (a) the researcher carry out the inquiry in ways that are consistent with the entirety of qualitative beliefs, (b) the researcher relies on human instrumentation, (c) the researcher carefully plans the nature and strategies of the study, and (d) the researcher becomes familiar with the site in which the study will take place. Certainly a study in which the researcher conducts interviews using electronic mail may meet these criteria. It is also likely that the interviewing may take place as data collection in a more conventional, quantitative study. Thus, interviewing in the context of this study is not meant to be seen as qualitative or quantitative but rather as a method of data collection.

Interviews, according to LeCompte and Preissle (1993), elicit information from participants through personal interaction and "they share an advantage over less obtrusive measures like questionnaires because researchers guide the revelation of information" (p. 165). A strength of interviewing as a valid method of data collection is that information can be checked thoroughly and repeatedly for accuracy. "The design of qualitative interviewing provides the tools for encouraging people not to lie, for detecting bias, and for compensating for bias when it does occur" (Rubin & Rubin, 1995, p. 225).

Researchers using electronic mail as a method of data collection should be concerned about a variety of potential problems including difficulties related to establishing rapport with respondents along with the encouragement and interpretation of emotion or meaning based on nonverbal cues. Establishing rapport and encouraging nonverbal cues may be difficult in traditional face-to-face interviews. It is likely that such interview relationships may be more easily established with electronic mail users since these characteristics are often reflected by users of electronic mail. According to Rubin and Rubin (1995), interviewers need to address the special symbols and terminology used by the interviewees in order to gain insights into their understandings. Electronic mail users imbed unusual symbols and acronyms within their text and investigators should become familiar with them as a useful tool for developing electronic interview relationships.

In settings similar to electronic mail, researchers have found that self-disclosure is more likely when subjects are anonymous. For example, in decision centers, where groups of participants respond using computer

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terminals and are not identified by name, coordinators report that dialog is progressive, meaningful, purposeful, and highly stimulating (Aiken, 1993; McGrath, 1986). Subjects/participants using electronic media have the opportunity to be thoughtful, reflective, and honest in response to questions and comments from a facilitator (Rubin & Rubin, 1995). The electronic mail medium offers a greater degree of anonymity for most users than other types of media.

Electronic mail has been used recently in research for a variety of supplemental and tangential activities within projects of a larger scope, as well as a primary data source. For example, Workman (1995), in a participant observation study of a computer systems firm, scheduled appointments, kept track of meetings, corresponded with key informants to clarify issues via electronic mail, received many documents including agendas and minutes, followed activities of certain groups by reading electronic bulletin boards and participated in special interest group discussions on-line. Foster (1994) used electronic mail to interview new subscribers to a listserve. He was interested in studying the ways in which universities conduct curriculum planning. Foster concluded that there were both advantages and disadvantages, as well as some potential problems, associated with electronic data gathering. Contributions of the electronic medium included: (a) electronic mail could provide a supplemental data source; (b) scheduling and geographic location problems are eliminated; and (c) cost, time, convenience, and interview form could have huge advantages over traditional interviews. However, electronic interviewers should be especially cautious in regard to ethics and common courtesy. In addition, Foster raises the issues of sampling bias and generalizability when using electronic media.

Sampling bias may be an extremely important issue for those conducting research using electronic mail. Anderson, Bikson, Law, and Mitchell (1995) studied the composition of household and workplace computer ownership and use. These researchers found the majority of owners and users were white, educated, and middle-class. They also found small differences in age and gender. Thus, researchers using electronic mail to gather data may be "contributing to information apartheid" (M. Ender, personal communication, March 4,1996). However, it is also possible that subjects previously inaccessible to researchers may become available using electronic media. In this way, sampling opportunity may compensate to some degree for sampling bias.

Method

Study participants were selected using the following criteria: participants worked in an environment in which they were at ease using electronic mail for communication, they were geographically dispersed, and they regularly relied on electronic mail for communication. Possible participants were identified by networking with the researchers' colleagues. Twelve subjects were selected and invited to participate in the study (see Appendix A).

At the onset of the study, the interviewers attempted to establish a rapport by engaging in a series of informal discussions; in this way, the interviewers became familiar with the respondents' individual communication styles and each dyad began the slow process of becoming acquainted. Six of the original respondents dropped out of the study for various reasons. The six remaining respondents continued to have a fairly consistent dialog with their interviewers over a period of about four months.

The researchers' intent was to investigate the use of electronic interviewing as a viable method of data collection. The substantive nature of the interviews was not of particular interest except as a means to assess the method. The interviews were characterized as being informal and conversational (Patton, 1990). Interviewees were encouraged to use typical expressions of emotion, such as :) (smiling), all caps (yelling), or acronyms such as LOL (laughing out loud) and to use other, even innovative, ways of expressing their feelings or emphases. (These expressions are often referred to as "emotext" or "emoticons.") Semi-structured, open-ended questions were used initially and followed by clarifying probes and prompts. The substantive topic addressed in the interviews was related to the respondents' use of technology and included the following types of probes: how participants currently use technology, how their use has changed over the past few years, if they had access to a "technology mentor," and what their hopes and fears were for future technology use. However, as expected, the direction of each interview differed among the participants based on their individual responses to the questions. The number of communications differed for each dyad. The interviewers carefully documented difficulties and accomplishments throughout the interview process, comparing and contrasting electronic interviewing with traditional face-to-face interview protocols.

Results

Many of the difficulties inherent in face-to-face interviews were overcome in the electronic medium. The researchers were unable to interrupt the interviewees or to give nonverbal evaluative responses. Both the researchers and the interviewees were able to take the time to be thoughtful and careful in their responses to each other, increasing the depth of understanding for both parties. Neither the researchers or the interviewees had to schedule appointments or be concerned with the effects of interruptions. Data recording was simplified in this study, compared with traditional interviews. In face-to-face interviews, researchers must decide whether to make hand-written notes or use a videotape or audiotape; each method has comparative advantages and disadvantages (Rubin & Rubin, 1995). In this study, the interview and the recording were simultaneous. As a result, the process involved in data analysis was streamlined; the usual transcription process was completely circumvented. Responses, therefore, were accurately and thoroughly collected.

The user characteristics of the sample both enhanced the trustworthiness of the study and led the researchers to question the credibility of electronic methodology. We were able to enlist study participants without regard to geographical location. However, the sample was limited to those who had access to a computer and to an on-line service. So, in one regard, we were able to draw our sample from a more diverse geographical population, but in another, our sample was biased toward the "information rich while ignoring the information poor" (M. Ender, personal communication, March 4,1996).

Unexpected difficulties with the method surfaced early in the study. We experienced several "false starts," learning that it was very important to establish a rapport prior to interviewing. This factor may be much more important in electronic interviews than in face-to-face interviews because the interviewer does not have as much opportunity to interpret nonverbal cues. Additionally, we lost contact with some of our original participants for a variety of reasons. Some participants appeared not to use electronic mail in the summer months; others were inconsistent with their frequency of use; and several apparently disconnected from their service provider.

Discussion

Advantages of interviewing using electronic mail rather than traditional face-to-face interviews include reduced cost and time, convenience, unimportance of geographic location, possibly more sampling diversity, large amounts of data may be accumulated very quickly, follow-up and clarification may be more thorough and thoughtful, recording and transcription can be accomplished in a single step without interfering with the actual interview, no danger or discomfort for the researcher, and the interview process can continue until the researcher is satisfied that a saturation point has been reached (Lincoln & Guba, 1985).

As a result of our reflective inquiry, we suggest the following guidelines for researchers who are considering conducting research via electronic mail using interviews:

1. Select the sample carefully using specific criteria and with the understanding that sampling bias will likely exist. Possibly the selection criteria should be even more clearly defined than is usual in order to compensate for bias. Find out if the possible participants use electronic mail only in one location (at work, for example) and, if so, be sure that he or she will have consistent access during the period over which the interview will be conducted.
2. Establish guidelines a priori with the interviewees regarding time between communications, whether any other type of communication may be expected (e.g., telephone, regular mail), full disclosure that they are participating in a research project and the correlated ethical issues, and other issues related to using interview protocols.
3. Prior to actual interviewing, establish a rapport with the interviewees by "chatting." This stage of the pre-interview process will also help to establish standardized electronic mail response patterns for both the interviewer and the interviewee.
4. Be timely with responses, especially when clarifications, illustrations, explanations, or elaborations are needed.
5. Use acronyms and symbols that communicate feelings, emotions, and the like. Encourage the interviewees to do the same. Ask for explanations when new expressions are introduced.
6. Summarize the interviewee's responses to previous questions and return the summary to the interviewee immediately for verification. This will demonstrate understanding and concern for careful representation while allowing for clarification of misinterpretation.
7. Check for messages from interviewees regularly.

8. Limit the length of messages to interviewees. Break questions into small parts and ask only a few questions at a time. Electronic mail users characteristically write brief messages but will respond consistently.

9. Be alert for misunderstandings. Be attentive to changes in the 'tone' of responses, unusual response lag, symbols that are inconsistent with previous dialog, and any other clues which might lead you to question the credibility of a response.

10. Be prepared to re-focus the discussion on the interview topic(s). The electronic relationships which develop over these longer timeframes can become quite comfortable for the interviewee and there may be a tendency toward self-disclosure beyond the scope of the interview topic(s). Do not overtly discourage this sharing; rather, subtly encourage responses related to the research topic.

11. Encourage the interviewees to forward relevant artifacts such as minutes from meetings, messages posted in special interest or listserve discussion groups, and mail messages from friends or colleagues.

12. Be an ethnographer. Study the culture of electronic mail and be careful not to be offensive. For example, writing in all uppercase letters implies "raising the voice." Subscribe to a listserve, if necessary, and spend some time "lurking" (defined as simply reading the postings without getting involved in the discussion) so that "net etiquette " or "netiquette" will not be a problem when you begin your research. Be prepared to communicate these cultural standards to interviewees if necessary.

Summary

Will researchers increasingly rely on electronic mail interviews as a primary data collection source? The answer may well depend upon three important factors. First, researchers themselves must feel at ease with electronic mail. Certainly qualitative researchers base the trustworthiness of their findings in part on their ability to become a participant in the culture they are studying. Researchers with a more positivistic approach would likely use electronic interviews in much the same way as a mailed questionnaire or telephone survey: standardized and structured. In either case, electronic interviews may be a viable alternative to face-to-face interviews. The second important factor is that the interviewees must also feel at ease using electronic mail. If they are not, it is likely that they will drop out of the study or response time will be so long that the communication is devalued. For some potential interviewees, it may be necessary to engage in lengthy pre-interview strategies to enhance their level of comfort with this electronic medium. Finally, researchers must be able to convince others of the trustworthiness of their findings; that they have truly represented the electronic voices of their interviewees while maintaining the agreed upon level of anonymity.

Data collected using electronic interviews can be used confidently but cautiously to represent the views of participants in research. In order to understand the emotions, meanings, and emphases of respondents, researchers should use techniques and terminology that are particular to users of electronic media. It is possible that this research will extend to other electronic data collection methodologies such as electronic focus groups, video interviews, Internet chat rooms, and listserves. This research provides a necessary and important link between qualitative research methods and technology.

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Appendix A

The following is a copy of the message sent to twelve potential participants in this research effort. The same message was sent by each researcher involved.

Potential Participant Name,

Three researchers at the University of Northern Colorado (Dr. Kay Persichitte, Dr. Suzanne Young, and Major Don Tharp, USAF) have identified an area for research in which we hope you will participate. This message is being sent to a select group of people whom these researchers have met at AECT, AERA, through professional contact, or through personal contact.

We wish to establish an interview relationship that would allow for, and encourage, open communication between us on the general topic of your use of technology. The duration of our interview will depend on the strength of the interview relationship that develops. We know that your time commitment in responding to our questions will vary. Your responses and our research interests will guide the direction of future queries. Thus, the time commitment for each participant in this study will vary.

If you agree to participate in our study, we encourage you to make frequent and appropriate use of acronyms and symbols to best communicate your meaning. For example, if I wanted to show EMPHASIS, I would type in all caps.

We guarantee that you will receive anonymity as a participant in this study. Please do not be concerned that your comments will be misused in any way. In fact, you will have the opportunity to read and APPROVE our analyses before any dissemination takes place; our primary interest is in understanding YOUR point of view :)!

We look forward to your reply as to whether you are willing to participate in this interview study. If you are not interested, please let us know so that we can expand our participant pool accordingly.

Sincere thanks for your time,

Individual Interviewer Name
Complete Address